

1-6. (CANCELED)

7. (CURRENTLY AMENDED) A method of manufacturing an optical fiber including a silica glass fiber, the method comprising the steps of:

spinning a silica glass fiber from a base material;

irradiating the silica glass fiber with ultraviolet radiation to purposefully ~~[[cause]]~~ create multiple structural defects in the silica glass fiber; ∞

~~removing the multiple structural defects from the spinning step of the silica glass fiber by at least residual heat from the spinning process of the silica glass fiber and, if necessary, further heating the silica glass fiber to improve a resistance of the silica glass fiber to ultraviolet radiation; and~~

applying an insulation coating around the silica glass fiber; and ∞

improving a resistance of the silica glass fiber to ultraviolet radiation by heating the silica glass fiber to remove the multiple structural defects purposefully caused by the irradiating step ∞

~~optionally further heating the fiber to remove the structural defects either prior to or after applying the insulation coating.~~ ∞

8-24. (CANCELED).

25. (NEW) A method of manufacturing an optical fiber including a silica glass fiber, the method comprising the steps of:

spinning a silica glass fiber from a base material;

irradiating the silica glass fiber with ultraviolet radiation to purposefully cause multiple structural defects in the silica glass fiber; and

improving a resistance of the silica glass fiber to ultraviolet radiation by heating the silica glass fiber to remove the multiple structural defects caused by the irradiating step and thereby improve the resistance of the silica glass fiber to ultraviolet radiation.

26. (NEW) A method of manufacturing an optical fiber including a silica glass fiber, the method comprising the steps of:

spinning a silica glass fiber from a base material;

irradiating the silica glass fiber, following spinning of the silica glass fiber, with ultraviolet radiation, having a wave length of between 150 to 200 nanometers and an intensity of 1 to 30 mJ/cm², to create multiple structural defects in the silica glass fiber; and

applying an insulation coating around the silica glass fiber;

improving a resistance of the silica glass fiber to ultraviolet radiation by heating the silica glass fiber, one of prior to or after applying the insulation coating, to a temperature between 300 to 1300 degrees centigrade to remove the multiple structural defects caused by the irradiating step and thereby improve the resistance of the silica glass fiber to ultraviolet radiation and preventing deterioration of transmittance of the silica glass due to radioactive radiation.

27. (NEW) The method of manufacturing the optical fiber according to claim 26, further comprising the step of irradiating the silica glass fiber immediately following spinning of the silica glass fiber.

28. (NEW) The method of manufacturing the optical fiber according to claim 26, wherein the method prevents deterioration of transmittance of the silica glass due to radioactive radiation.

29. (NEW) The method of manufacturing the optical fiber according to claim 26, further comprising the step of continuing irradiation of the silica glass fiber, with the ultraviolet radiation, until the silica glass fiber has a sufficiently reduced ultraviolet transmittance.

30. (NEW) The method of manufacturing the optical fiber according to claim 26, further comprising the step manufacturing the silica glass fiber from a silica glass core having a silica glass and fluorine clad layer surrounded by the insulation coating.

31. (NEW) The method of manufacturing the optical fiber according to claim 30, further comprising the step manufacturing the insulation coating from one of gold and aluminum.

32. (NEW) The method of manufacturing the optical fiber according to claim 26, further comprising the steps of irradiating the silica glass fiber immediately following spinning of the silica glass fiber to prevent deterioration of transmittance of the silica glass due to radioactive radiation; and ,

continuing irradiation of the silica glass fiber, with the ultraviolet radiation, until the silica glass fiber has a sufficiently reduced ultraviolet transmittance.